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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,905	12/16/2003	Masato Kozaki	2936-0203P	3898
2292	7590	07/25/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			SAFAIPOUR, BOBBAK	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/735,905

Applicant(s)

KOZAKI, MASATO

Examiner

Bobbak Safaipoor

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/16/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement submitted on 12/16/2003 has been considered by the Examiner and made of record in the application file.

### ***Claim Objections***

3. Claim 13 is objected to because of the following informality:

On **line 2** of **claim 13**, insert a space between “throughhole” to have it read “through hole”;

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 2, 4-9, and 11-14** are rejected under 35 U.S.C. 102(e) as being anticipated by **Nakagawa et al (United States Patent Application Publication #2003/0058183 A1)**.

Consider **claim 1**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter comprising a shield case 5 (chassis) (figures 1 and 2) in which a reflection mirror (primary reflector) (figure 17) into which radio wave signals received by an external parabola antenna are guided and an output terminal to be connected to an external tuner are placed at a predetermined distance from each other so that signals fed from the primary reflector are amplified (paragraph 65; The satellite broadcast reception converter receives electric waves transmitted from two adjacent satellites and transmits circularly-polarized wave signals that are converged by the reflection mirror, pass through the waterproof cover and then are incident into the first and second waveguides) and converted into intermediate-frequency output signals so as to be fed out through the output terminal (paragraph 72, figure 19; The reception signals detected are converted to IF frequency signals by a converter circuit mounted on the first and second circuit boards and then output therefrom. The converter circuit comprises a frequency amplifying circuit portion 104 for amplifying the signals output from the frequency convert 103.),

wherein the satellite broadcast reception converter further comprising:

a first circuit board (paragraph 58; figure 10) of which another end portion thereof (read as waterproof cover) (paragraph 64; figure 1, which is a cross-sectional view showing the satellite broadcast reception converter; figure 17, which is a diagram that shows the relationship between the reflection mirror and the satellite broadcast reception converter) is connected to the reflection mirror (primary reflector) (figure 17) , and

a second circuit board (auxiliary board) (figure 10) of which another end portion thereof is connected to the output terminal by way of a lead wire (The Examiner takes notice that the second circuit board is inherently connected to the output terminal by a wire); and

wherein the first circuit board 6 (figure 10) and the second circuit board 7 (auxiliary board) (figure 10) are connected together at one end portions thereof and laid in a contiguous sequence in the shield case 5 (chassis) (figures 1 and 2) in such a manner that the circuit board is laid closer to the primary reflector and the auxiliary board is laid closer to the output terminal (figure 10).

Consider **claim 2**, and **as applied to claim 1 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein the circuit board 6 (paragraph 58; figure 10) and the second circuit board 7 (auxiliary board) (figure 10) are laid in such a way that said one end portion of the circuit board and said one end portion of the auxiliary board are adjacent to each other (figure 10).

Consider **claim 4**, and **as applied to claim 1 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein the circuit board 6 (paragraph 58; figure 10) and the second circuit board 7 (auxiliary board) (figure 10) are laid on each other at said one end portions (figure 10).

Consider **claim 5**, and **as applied to claim 4 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein a through hole is provided in said one end portion of the circuit board 6 (paragraph 58; figure 10) or said one end portion of the second circuit board 7 (auxiliary board) (figure 10), and

wherein the circuit board and the auxiliary board are connected together electrically through cream solder (paragraph 62) filled in the through hole (paragraph 62).

Consider **claim 6**, and **as applied to claim 5 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein a size of the through hole is at least such that allows a tip of a sold iron for use in a soldering process to be inserted and removed (paragraph 62; Four fixing holes are formed in the flange portion at angular intervals of about 90 degrees in the circumferential direction, and each fixing hole is designed in rectangular shape).

Consider **claim 7**, and **as applied to claim 5 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein an elevation enclosed in the through hole and regulating an amount of solder to be filled is formed on said one end portion of whichever of the circuit board and the auxiliary board in which the through hole is not provided (paragraph 58; Each of the first and second circuits boards is soldered to the shield case by using solder filled in each recess portion).

Consider **claim 8**, Nakagawa et al clearly show and disclose a satellite broadcast reception receiver comprising:

a shield case 5 (chassis) (figures 1 and 2) including a reflection mirror (primary reflector) (figure 17) for receiving radio wave signals from an external parabola antenna and an output terminal connectable to an external tuner and located a predetermined distance from said primary reflector (paragraph 65; The satellite broadcast reception converter receives electric waves transmitted from two adjacent satellites and transmits circularly-polarized wave signals that are converged by the reflection mirror, pass through the waterproof cover and then are incident into the first and second waveguides);

a circuit board comprising circuitry for receiving signals from said primary reflector, amplifying the signals, converting the signals into intermediate-frequency output signals, and feeding the output signals to said output terminal, said circuit board including a first end connected to the primary reflector and a second end (paragraph 72; The reception signals are frequency-converted to IF frequency signals by a converter circuit mounted on the first and second circuit boards and then output therefrom. The converter circuit comprises a satellite broadcast signal input terminal portion for receiving satellite broadcast signals, a reception signal amplifying circuit portion for amplifying and outputting the satellite broadcast signals input and an intermediate frequency amplifying circuit portion for amplifying the signals output from the frequency converter);

a second circuit board (auxiliary board) (figure 10) having a first end and a second end;  
a lead wire connected between said auxiliary board second circuit board (auxiliary board) second end and said output terminal (The Examiner takes notice that the second circuit board is inherently connected to the output terminal by a wire); and

a connector electrically connecting said first circuit board (paragraph 58; figure 10) second end and said second circuit board (auxiliary board) (figure 10) first end (paragraph 83; Intermediate frequency wave signals output from the respective mixers on the first circuit board are connected to the intermediate frequency amplifying circuit portion on the second circuit board through connection pins and the ground pattern formed on the first circuit board and the ground pattern formed on the part-mounting face of the second circuit board are brought into contact with each other at the overlap portion between the first circuit board and the second board);

wherein said first circuit board (paragraph 58; figure 10) and said second circuit board (auxiliary board) (figure 10) are arranged in said shield case 5 (chassis) (figures 1 and 2) such that said first circuit board is closer to said reflection mirror (primary reflector) (figure 17) than to said output terminal and said second circuit board (auxiliary board) (figure 10) is closer to said output terminal than to said reflection mirror (primary reflector) (figure 17).

Consider **claim 9**, and **as applied to claim 8 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter as wherein said circuit board second end is adjacent to said auxiliary board first end (figure 10).

Consider **claim 11**, and **as applied to claim 8 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein said auxiliary board first end is supported by said circuit board second end (paragraph 59; The first and second circuit boards can be not only soldered to the shield case, but also fixed to the back surface of the top plate of the shield case by using the respective fitting pawls. If the respective fitting pawls of the shield case are inserted into the respective through holes of the circuit boards and then bent toward the plate surface side of the first circuit board, both the circuit boards could be fixed to the shield case).

Consider **claim 12**, and **as applied to claim 11 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein said first circuit board 6 (paragraph 58; figure 10) second end or said second circuit board 7 (auxiliary board) (figure 10) first end includes a through hole and said circuit board and said auxiliary board are connected together electrically by cream solder (paragraph 62) in said through hole (paragraph 62).

Consider **claim 13**, and **as applied to claim 12 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein said through hole is large enough to



accommodate a tip of a soldering iron (paragraph 62; Four fixing holes are formed in the flange portion at angular intervals of about 90 degrees in the circumferential direction, and each fixing hole is designed in rectangular shape).

Consider **claim 14**, and **as applied to claim 12 above**, Nakagawa et al clearly show and disclose a satellite broadcast reception converter wherein the one of said first circuit board 6 (paragraph 58; figure 10) second end and said second circuit board 7 (auxiliary board) (figure 10) first end that does not include said through hole includes an elevation enclosed in said through hole for regulating an amount of solder joining said circuit board and said auxiliary board (paragraph 58; Each of the first and second circuits boards is soldered to the shield case by using solder filled in each recess portion).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. **Claims 3 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nakagawa et al (United States Patent Application Publication #2003/0058183 A1)** in view of **Ikeda, Tomoki (European Patent Application # EP 1 349 231 A2)**.

Consider **claim 3**, and **as applied to claim 2 above**, Nakagawa et al show and disclose the claimed invention except for wherein the circuit board and the auxiliary board are connected together at said one end portions thereof by a pin having a “U” shape in longitudinal section view.

In the same field of endeavor, Ikeda show and disclose, as known in the art, a housing 1 which has a rectangular U-shaped top wall 1e that forms an edge of the periphery thereof (paragraph 26, figure 1), which comprises the rectangular circuit board 9 (paragraph 33, figure 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the well-known teachings of Ikeda into the system of Nakagawa et al to have the circuit boards connected together at said one end portions thereof by a pin having a “U” shape in longitudinal section view in order to have the two circuit boards connected together in a “U” shape.

Consider **claim 10**, and **as applied to claim 9 above**, Nakagawa et al show and disclose the claimed invention except for the satellite broadcast reception converter wherein said connector comprises a U-shaped pin.

In the same field of endeavor, Ikeda show and disclose, as known in the art, a rectangular U-shaped top wall 1e that forms an edge of the periphery thereof (paragraph 26, figure 1), which comprises the rectangular circuit board 9 (paragraph 33, figure 5).

Although not specifically disclosed that the connector comprises a U-shaped pin, it would be obvious to one of ordinary skill in the art that it would be more efficient if the connector is a U-shaped pin due to the rectangular U-shaped top wall which comprises the rectangular circuit boards.

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suga (United States Patent Application Publication #2003/0222828 A1)

7. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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Any inquiry concerning this communication or earlier communications from the

Art Unit: 2631

Examiner should be directed to Bobbak Safaipour whose telephone number is (571) 270-1092.

The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*Bobbak Safaipour*  
B.S./bs

July 18, 2006

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*SL* *dy* *7/19/06*